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| 13. ABSTRACT Describes a method for evaluation of flamethrower service unit operational and functional performance characteristics. Identifies supporting tests, facilities, and equipment required. Provide procedures for functional tests. | | | |
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| | ROLE | WT | ROLE | WT | ROLE | WT |
| Flamethrower | | | | | | |
| Servicing Unit | | | | | | |

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U. S. ARMY TEST AND EVALUATION COMMAND
SYSTEM SERVICE TEST OPERATIONS PROCEDURE

AMSTE-RP-702-103

Test Operations Procedure 4-3-072

22 March 1972

SERVICE UNIT, FLAMETHROWER

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SECTION I
GENERAL

1. Purpose and Scope. This TOP describes test procedures for evaluating the operational and performance characteristics of flamethrower service units. Equipment and test phases include the generation and flamethrower charging of compressed air and a thickened fuel (jellied gasoline).

2. Background. The flamethrower service unit is portable or vehicle mounted and supplies compressed air to portable and mechanized flamethrowers. It has provisions for mixing thickened fuel and transferring the fuel to flamethrowers, flame field expedients, and when necessary firebombs. Components of the service unit are interconnected to perform interrelated functions of mixing and transporting fuel, producing pressurized air, preheating fuel, and generating and controlling it's own power.

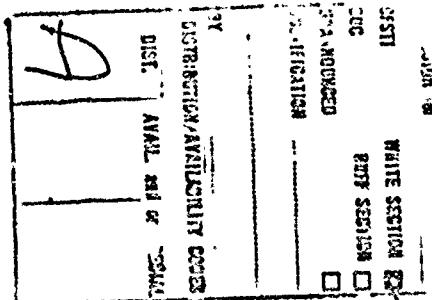
3. Equipment and Facilities. The specific requirements are described in the publications in Section II below.



SECTION II
TEST PROCEDURES

4. Supporting Tests. Common Service TOPs and the tests defined in Section III to be considered in formulating a service test plan are as follows:

| <u>TEST SUBJECT TITLE</u> | <u>APPLICATION NO</u> |
|--|-----------------------|
| a. Operator Training and Familiarization | 10-3-501 |
| b. Safety Hazards | 2-3-501 |
| c. Physical Characteristics | 9-3-500 |
| d. Technical Inspections | 9-3-508 |
| e. Functional Suitability (refer to para 5) | |
| f. Human Factors Engineering | 2-3-516 |
| g. Road Mobility | 2-3-505 |
| h. Cross-Country Mobility. | 2-3-504 |
| i. Fuel and Oil Consumption | 2-3-513 |
| j. Compatibility with Related Equipment | 2-3-512 |
| k. Air Portability, Internal - Suitability of Supplies and Equipment for | 7-3-515 |
| m. Air Portability, External - Suitability of Supplies and Equipment for | 7-3-516 |
| n. Maintainability | 2-3-502 |
| o. Maintenance Evaluation - Tools and Test Equipment | 2-3-527 |
| p. Maintenance Evaluation - Technical Manuscripts | 2-3-528 |
| q. Reliability | 7-3-508 |



SECTION III
SUPPLEMENTARY INSTRUCTIONS5. Functional Suitability.

a. Objective. To determine that the test item has the functional capability and suitability to manufacture and dispense compressed air and thickened fuel in the field as described in applicable MN or other requirement documents.

b. Method. The test item is assembled and operated in accordance with technical manuals and other applicable equipment specifications. Times required to fill various flamethrower or storage vessels (portable or mechanized) are noted along with difficulties encountered. Various types of vehicles are used to transport the test item cross-country per TOP/MTP 2-3-505 at specified intervals of operation (i.e., after 50 hours of stationary operation). A specified percentage of operations are performed under cover of darkness using light inherent to the test item. The adequacy of mixing, preheating, and dispensing of thickened fuel is determined by noting times required to fill various storage vessels and the use of the fuel in flamethrower operations.

c. Data Required.

- (1) Nomenclature of the test item.
- (2) Times required for assembly and disassembly.
- (3) Difficulties encountered during operation.
- (4) Deficiencies and shortcomings observed.
- (5) Personnel type and number required to operate the test item.
- (6) Remarks concerning overall operation of the test item.

d. Analytical Plan. Test results are evaluated to determine whether or not the test item meets the stated performance requirements.

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APPENDIX
REFERENCES

1. AR 70-38, Research, Development, Test and Evaluation of Material for Extreme Climatic Conditions.
2. TM 3-1040-256-12, Service Unit, Flamethrower, Tracked Vehicle Mounted, XM45E1